TABLE 1. Effect of benzothiazol-2-oxyacetic acid on development of Red Malaga and Thompson Seedless grapes.

Concentration (ppm)	Date of treatment	Av. wt./berry (g)	Total soluble solids (%)	Acid (%)	Color (%)
		Red Malaga			
0	—	3.89	21.3	0.46	98
50	June 29	3.45	17.5	.66	50
50	July 31	3.19	14.9	.90	30
		Thompson Seedless			
0	—	1.31	22.8	.56	—
20	June 10	1.70	18.2	.70	—
50	June 10	1.32	19.4	.69	—
100	June 10	1.28	17.2	.68	—
0	August 10	—	21.1	.59	—
20	August 10	—	19.2	.72	—
50	August 10	—	18.9	.70	—

were used. All are varieties of *Vitis vinifera*, and all are seeded except Thompson Seedless. The clusters of Thompson Seedless sprayed on June 10 were reduced to 6 per cane one day before time of treatment, but vines sprayed on Aug. 10 were not thinned (*1*). Tokay was berry-thinned and Ribier flower-cluster thinned so that there were about 12 clusters per vine. Red Malaga and Zinfandel were not thinned.

Benzothiazol-2-oxyacetic acid (obtained from the American Cyanamid Co.) was dissolved by adding sufficient ammonia to an aqueous suspension of the compound. Dreft, about 0.2% by weight, was used for a wetting agent. The sprays were applied with a 3-gal hand-sprayer. The clusters and much foliage were heavily sprayed. There were 2 vines per treatment, except for the spraying of Thompson Seedless on Aug. 10 when there were 5.

Each variety was first sprayed soon after the shatter of berries following flowering. When a second lot of vines was sprayed, berries of Red Malaga and Zinfandel were beginning to color, but berries of Tokay and Ribier were still green although they had attained almost maximum size. Thompson Seedless on Aug. 10 had about 12% total soluble solids.

There was little or no damage to foliage except from the spraying of Thompson Seedless on June 10. By Aug. 10 many of these leaves, especially on the apical one foot of shoots sprayed with compound at 20 ppm, were cupped and crumpled. The injury was progressively greater with applications of compound at 50 or 100 ppm.

Thompson Seedless grapes sprayed on Aug. 10 were harvested on Sept. 1, and all other grapes were harvested on Sept. 23 (Table 1). About 30 lb of fruit were harvested per treatment. The procedure for determining average weight per berry, percentage of total soluble solids, and percentage of acid has been described previously (*2*). The percentage of the total surface of fruit that was colored was estimated.

The data (Table 1) show that with Red Malaga and Thompson Seedless the compound delayed maturity, as evidenced by a decrease in the percentage of total soluble solids, an increase in the percentage of acid, or decrease in coloration. Results similar to those of Red Malaga were obtained with the other grapes studied. Although the growth regulator usually decreased the size of seeded grapes, it is probable that lower concentrations or later applications of compound would delay maturity without decreasing berry size. The compound at 20 ppm sprayed on June 10 increased the size of the berry of Thompson Seedless (*2*).

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Ephelis on *Sorghum halepense* in Mysore

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Severe infection of *Sorghum halepense* (Linn.) Pers. incited by a species of *Ephelis* was noticed in a field in Mysore, India. As many as 40% of the plants were infected in restricted areas, the diseased plants being conspicuous by their malformed, mummified inflorescence bearing grayish-white pseudomorph of the fungus. In healthy plants the inflorescence is a loose

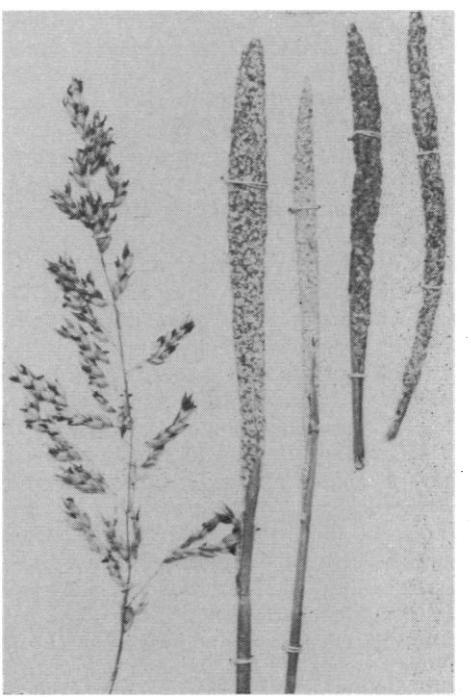

FIG. 1. Healthy and diseased spikelets of *Sorghum halepense*.

panicle, whereas in the diseased plants the spikelets become bound into a cylindrical structure 3–6 in. long, covered with the sclerotioid masses of the fungus (Fig. 1). Individual spikelets and glume of diseased inflorescence were uniformly dwarfed, as compared with healthy ones, and ultimately failed to develop grains. Diseased plants could be detected in early stages before development of inflorescence by the silvery white films of fungus growth covering the upper leaf surface.

The fungus incited systemic infection of plants and developed ephelidial fructifications in exciples which measured 300–500 μ in diameter. The conidiophores are simple or branched, bearing numerous acicular hyaline conidia that measured 13–23 × 1–1.5 μ with a mean of 18 × 1.2 μ. When diseased spikelets were mounted in water, large masses of conidia loosened from the exciple were released into the water.

Ephelis and *Balansia* stages have been reported from India on several grass hosts, but none so far has been reported on *Sorghum halepense*. An *Ephelis* stage on *Sorghum vulgare* was described by Bruner (*1*) from Cuba and this has been shown by Diehl (*2*) to be the conidial stage of *Balansia claviceps* Speg. The ephelidial conidia of *B. claviceps* measure 24–40 × 1–1.5 μ; while those of *Ephelis* on *S. halepense* measure 13–23 × 1–1.5 μ and therefore belong to a separate species. A detailed description of the fungus based on cultural and inoculation studies is being published separately.

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The Relation of Allergy Reagins to Electrophoretic Components of Serum[1]

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Several years ago we published a preliminary report on the fractionation of serum from egg-sensitive patients by the electrophoresis-convection method (*1*). These preliminary data indicated that circulating antibody capable of giving Prausnitz-Kustner reactions might occur in serum components other than gamma globulin. Since then, these observations have been confirmed by other investigators (*2, 3*), as well as our subsequent studies which are reported here. All fractions were tested for their ability to sensitize normal skin passively and to combine specifically with ovalbumin as described by Miller and Campbell (*4*).

Methods

Fractionation of serum. The electrophoresis-convection fractionation of serum was carried out in essentially the same manner as described by Cann, Brown, and Kirkwood (*5*). Two 70-ml samples of whole serum were each diluted to 120 ml and run simultaneously in two separate units. Identical fractions were combined in order to supply sufficient material for the different analyses. Fractionation was carried out in phosphate buffer at pH 7.0 and an ionic strength of 0.1. The field strength was about 1.5 v/cm and the time of each run was about 48 hr. The material present in the top portion of the cell after the first run was labeled T-1 and set aside for testing. The material in the bottom portion of the cell was refractionated and the resulting fractions designated as T-2 and B-2. The B-2 fraction was further separated into albumin and globulin fractions by one-half saturation of the solution with ammonium sulfate at pH 7.8.

Characterization of fractions. The electrophoretic components of each fraction were determined in the usual manner using barbital buffer at pH 8.4. Mobilities were calculated in accordance with the suggestions of Longsworth and MacInnes (*6*). The apparent relative concentrations of electrophoretic components were determined by finding the ratio of the component area in descending patterns to the total area, exclusive of the ε boundary. The areas were measured on projected tracings of the descending patterns with a planimeter. Although both gamma and beta components usually resolved into two fractions (γ_1, γ_2, β_1, β_2), this detail did not seem to be of sufficient significance to record this separation in Table 1. The usual designations of albumin, α_1, α_2, β, and γ, were given to components having mobilities in the range of 6.0, 5.0, 4.0, 3.0, and 1.0, respectively.

Serological properties. All fractions were tested for their specific affinity for ovalbumin by methods described by Miller and Campbell (*4*). This value is expressed as the percent of the fraction that apparently combined with ovalbumin and was brought down as additional protein nitrogen upon addition of a standard amount of rabbit antiovalbumin serum. The amount of the respective fraction which was added to the standard precipitating system was always 7.0 mg. Protein analysis of precipitates was made in the usual manner using the Nessler reaction as described by Lanni and Campbell (*7*).

Analysis for reaginic activity. The protein concentration of various fractions was determined and then adjusted to a value of 7.0 mg per ml and sterilized by filtration. Varying dilutions in 0.1-ml amounts were then injected intradermally into normal volunteers. Forty-eight hours later the prepared sites as well as control sites were tested with intradermal injections of antigen. The reaginic activity was expressed as the limiting dilution of the 0.7 percent protein solution which produced a definite passive transfer reaction.

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